WHAT IS CLAIMED IS:

1. A predictor set comprising a plurality of polynucleotides whose expression pattern is predictive of the response of cells to treatment with a compound that modulates protein tyrosine kinase activity or members of the protein tyrosine kinase pathway.

2. The predictor set according to claim 1 wherein the polynucleotides are selected from the group consisting of:

   a.) the polynucleotides provided in Table 2;

   b.) the sensitive predictor polynucleotides provided in Table 2; and

   c.) the resistant predictor polynucleotides provided in Table 2.

3. The predictor set according to claim 2 wherein the plurality of polynucleotides comprise the number of polynucleotides selected from the group consisting of:

   a.) at least about 1 polynucleotides;

   b.) at least about 3 polynucleotides;

   c.) at least about 5 polynucleotides;

   d.) at least about 7 polynucleotides;

   e.) at least about 10 polynucleotides;

   f.) at least about 15 polynucleotides;

   g.) at least about 20 polynucleotides;

   h.) at least about 25 polynucleotides; and

   i.) at least about 30 polynucleotides.

4. The predictor set according to claim 3 wherein the plurality of polynucleotides comprise a member of the group consisting of:

   a.) the polynucleotides provided in Table 3;

   b.) the sensitive predictor polynucleotides provided in Table 3;

c.) the resistant predictor polynucleotides provided in Table 3;

d.) the polynucleotides provided in Table 4;

e.) the sensitive predictor polynucleotides provided in Table 4;

f.) the resistant predictor polynucleotides provided in Table 4;

g.) the polynucleotides provided in Table 5;

h.) the sensitive predictor polynucleotides provided in Table 5; and

i.) the resistant predictor polynucleotides provided in Table 5.

5. The predictor set according to claim 4 wherein the compound is selected from the group consisting of:

a.) antisense reagents directed to said polynucleotides;

b.) antibodies directed against polypeptides encoded by said polynucleotides; and

c.) small molecule compounds.

6. The predictor set according to claim 5 wherein the compound is BMS-A.

7. The predictor set according to claim 1 wherein said cells are a member of the group consisting of: breast cells, and breast cancer cells.

8. A predictor set comprising a plurality of polypeptides whose expression pattern is predictive of the response of cells to treatment with compounds that modulate protein tyrosine kinase activity or members of the protein tyrosine kinase pathway.

9. The predictor set according to claim 8 wherein the polypeptides are selected from the group consisting of:

a.) the polypeptides provided in Table 2;

b.) the sensitive predictor polypeptides provided in Table 2; and

c.) the resistant predictor polypeptides provided in Table 2.

10. The predictor set according to claim 9 wherein the plurality of polypeptides comprise the number of polypeptides selected from the group consisting of:

a.) at least about 1 polypeptides;

b.) at least about 3 polypeptides;

c.) at least about 5 polypeptides;

d.) at least about 7 polypeptides;

e.) at least about 10 polypeptides;

f.) at least about 15 polypeptides;

g.) at least about 20 polypeptides;

h.) at least about 25 polypeptides; and

i.) at least about 30 polypeptides.

11. The predictor set according to claims 10 wherein the plurality of polypeptides comprise a member of the group consisting of:

a.) polypeptides provided in Table 3;

b.) the sensitive predictor polypeptides provided in Table 3;

c.) the resistant predictor polypeptides provided in Table 3;

d.) the polypeptides provided in Table 4;

e.) the sensitive predictor polypeptides provided in Table 4;

f.) the resistant predictor polypeptides provided in Table 4;

g.) the polypeptides provided in Table 5;

h.) the sensitive predictor polypeptides provided in Table 5; and

i.) the resistant predictor polypeptides provided in Table 5.

12. The predictor set according to claim 11 wherein the compound is selected from the group consisting of:

a.) antisense reagents directed against polynucleotides encoding said polypeptides;

b.) antibodies directed against said polypeptides; and

c.) small molecule compounds.

13. The predictor set according to claim 12 wherein the compound is BMS-A.

14. The predictor set according to claim 8 wherein said cells are a member of the group consisting of: breast cells, and breast cancer cells.

15. A method for predicting whether a compound is capable of modulating the activity of cells, comprising the steps of:

a.) obtaining a sample of cells;

b.) determining whether said cells express a plurality of markers; and

c.) correlating the expression of said markers to the compounds ability to modulate the activity of said cells.

16. The method according to claim 15 wherein the plurality of markers are polynucleotides.

17. The method according to claim 16 wherein the polynucleotides are the polynucleotides of claim 4.

18. The method according to claim 17 wherein the compounds are a member of the group consisting of:

a.) the compounds according to claim 5; and

b.) the compounds according to claim 6.

19. The method according to claim 18 wherein the cells are a member of the group consisting of: breast cells, and breast cancer cells.

20. The method according to claim 15 wherein the plurality of markers are polypeptides.

21. The method according to claim 20 wherein the polypeptides are the polypeptides of claim 11.

22. The method according to claim 21 wherein the compounds are a member of the group consisting of:

c.) the compounds according to claim 12; and

d.) the compounds according to claim 13.

23. The method according to claim 19 wherein the cells are a member of the group consisting of: breast cells, and breast cancer cells.

24. A plurality of cell lines for identifying polynucleotides and polypeptides whose expression levels correlate with compound sensitivity or resistance of cells associated with a disease state.

25. The plurality of cell lines according to claim 24 wherein said cell lines are breast cancer cell lines.

26. The plurality of cell lines according to claim 25 wherein said cell lines comprise one or more cell lines provided in Table 1.

27. A method of identifying polynucleotides and polypeptides that predict compound sensitivity or resistance of cells associated with a disease state, comprising the steps of:

a.) subjecting the plurality of cell lines according to claim 26 to one or more compounds;

b.) analyzing the expression pattern of a microarray of polynucleotides or polypeptides; and

c.) selecting polynucleotides or polypeptides that predict the sensitivity or resistance of cells associated with a disease state by using said expression pattern of said microarray.

28. The method according to claim 24 wherein the compounds are a member of the group consisting of:

a.) the compounds according to claim 5; and

b.) the compounds according to claim 6;

c.) the compounds according to claim 12; and

d.) the compounds according to claim 13.

29. The method according to claim 29 wherein said disease is breast cancer.

30. A method for predicting whether an individual requiring treatment for a disease state, will successfully respond or will not respond to said treatment comprising the steps of:

a.) obtaining a sample of cells from said individual;

b.) determining whether said cells express a plurality of markers; and

c.) correlating the expression of said markers to the individuals ability to respond to said treatment.

31. The method according to claim 30 wherein the plurality of markers are polynucleotides.

32. The method according to claim 31 wherein the polynucleotides are the polynucleotides of claim 4.

33. The method according to claim 32 wherein the compounds are a member of the group consisting of:

a.) the compounds according to claim 5; and

b.) the compounds according to claim 6.

34. The method according to claim 33 wherein the disease state is breast cancer.

35. The method according to claim 30 wherein the plurality of markers are polypeptides.

36. The method according to claim 35 wherein the polypeptides are the polypeptides of claim 11.

37. The method according to claim 36 wherein the compounds are a member of the group consisting of:

a.) the compounds according to claim 5; and

b.) the compounds according to claim 6.

38. The method according to claim 37 wherein the disease state is breast cancer.

39. A method of screening for candidate compounds capable of binding to and/or modulating the activity of a protein tyrosine kinase biomarker polypeptide, comprising:

(a) contacting a test compound with a polypeptide according to claim 11; and

(b) selecting as candidate compounds those test compounds that bind to and/or modulate activity of the polypeptide.

40. A method of treating breast cancer in a subject, comprising administering a modulator of one or more protein tyrosine kinase biomarker polypeptides, wherein said polypeptide(s) is selected from the group consisting of:

a.) polypeptides provided in Table 2;

b.) the sensitive predictor polypeptides provided in Table 2;

c.) the resistant predictor polypeptides provided in Table 2;

d.) polypeptides provided in Table 3;

e.) the sensitive predictor polypeptides provided in Table 3;

f.) the resistant predictor polypeptides provided in Table 3;

g.) the polypeptides provided in Table 4;

h.) the sensitive predictor polypeptides provided in Table 4;

i.) the resistant predictor polypeptides provided in Table 4;

j.) the polypeptides provided in Table 5; and

k.) the sensitive predictor polypeptides provided in Table 5.